ABOUT THE DATA

Statistical Terms

Incidence, prevalence, mortality, and lifetime risk are common statistics used to assess the burden of cancer in RI.

> **Note:** Trends in cancer prevalence, incidence, and mortality can be affected by cancer screening programs. Because the impact of effective screening on cancer rates is dynamic, rates must be interpreted with caution. For example, effective screening for cervical and colorectal cancers may decrease the incidence of cancer because screening procedures such as the Pap test and colonoscopy are capable of finding precancerous tissue. On the other hand, effective screening for breast cancer finds tumors at an early stage, and aggressive screening may initially lead to a noticeable increase in the number of tumors found.

Lifetime risk – "The probability that an individual, over the course of a lifetime, will develop cancer." (ACS Facts 2003)

Prevalence – "Prevalence is the number of cases of a disease, infected persons, or persons with some other attribute present during a particular interval of time." (NCHS)

Incidence – "Incidence is the number of cases of disease having their onset during a prescribed period of time. Incidence is a measure of morbidity or other events that occur within a specified period of time." (NCHS) Cancer incidence has been recorded in RI since the inception of the RI Cancer Registry in 1986.

Mortality – Mortality is the number of deaths during a prescribed period of time.

Survival – "A five-year relative cancer survival rate is the proportion of patients surviving cancer five years after their diagnosis (after adjusting for normal life expectancy). It includes those who are disease-free, in remission, or under treatment. Advances in the ways cancer is diagnosed and treated have increased the number of people who live long periods of time free of their disease." (Vermont)

Incidence and mortality are often expressed as rates. Different types of rates and other statistical terms used in this report are as follows:

Crude Rate - A crude rate is the number of cases per 100,000 in a given population.

Age-adjusted Rate - An age-adjusted rate is a weighted average of crude rates, where the crude rates are calculated for different age groups and the weights are the proportions of persons in the corresponding age groups of a standard population. Age-adjustment statistically modifies rates to eliminate the effect of different age distributions in different populations.

Confidence Intervals – A range of values around a rate constructed so that this range has a specified probability of including the true value of the rate. The specified probability is called the confidence level, and the end points of the confidence interval are called the confidence limits. (CDC Reproductive Health) "If the confidence intervals of two groups overlap, then any difference between the two rates is not statistically significant." (Vermont)

Data Sources

Types of data contained in this report have been summarized in the table below, along with the data source as abbreviated in figures, data source as full citation, and brief descriptions of the data source.

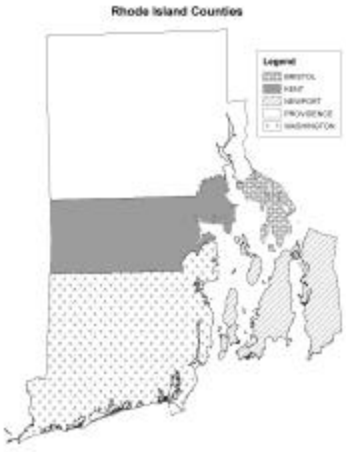
Data		Abbreviated Data Source	Data Source as Full Citation	Brief Description
Prevalence (25-year estimates)	RI	National Cancer Institute**	Estimates for RI, based on US prevalence rates from CT SEER Registry and 2000 census population data for RI. CT SEER prevalence rates available at: **http://srab.cancer.gov/prevalence/**	Cancer prevalence proportions by anatomical site and sex derived from Connecticut data and made available for public use by the NCI were multiplied by 2000 RI population projections by sex and age to produce "25-year prevalence" estimates by anatomical site and sex for RI, 2000.
Cancer Rates: Incidence	RI	RICR, HEALTH; calculated with *SEER*Stat* +	Rhode Island Cancer Registry, Rhode Island Department of Health.	The Rhode Island Cancer Registry (RICR), established in October 1986, is a statewide surveillance database that contains information on all cancer diagnoses in Rhode Island (RI). The Registry produces official cancer statistics for the State and supplies cancer data to researchers (using strict guidelines for protecting patient confidentiality). Rhode Island General Laws requires health care providers in Rhode Island to report of all new cancer diagnoses to the Registry.
	US	*SEER Cancer Statistics Review, 1973-1999*	Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Edwards BK (eds). *SEER Cancer Statistics Review, 1973-1999*, National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1973_1999/, 2002.	Published report
		SEER Cancer Statistics Review, 1975-2000	Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Mariotto A, Fay MP, Feuer EJ, Edwards BK (eds). *SEER Cancer Statistics Review, 1975-2000*, National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2000, 2003.	Published report
		SEER Public-Use 1973-2000 Data, calculated with *SEER*Stat* +	Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 9 Regs, Nov 2002 Sub (1973-2000), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2003, based on the November 2002 submission.	"The SEER 9 registries are Atlanta, Connecticut, Detroit, Hawaii, Iowa, New Mexico, San Francisco-Oakland, Seattle-Puget Sound, and Utah. Data are available for cases diagnosed from 1973 and later for these registries with the exception of Seattle-Puget Sound and Atlanta. The Seattle-Puget Sound and Atlanta registries joined the SEER program in 1974 and 1975, respectively." (www.seer.cancer.gov)
Cancer Rates: Mortality	RI	Office of Vital Records, HEALTH; calculated with *SEER*Stat* +	Office of Vital Records, Rhode Island Department of Health.	The Office of Vital Records at the RI Department of Health registers, files, and maintains all death records for the state. The advantage to using this data source is that an accurate denominator based on interpolation between the 1990 and 2000 censuses can be used, and the data are available through 2001. However, out-of-sate deaths for 2001 are not yet included.
	RI or US	**SEER US Mortality 1969-2000 Data,** calculated with *SEER*Stat* +	Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality - All COD, Public-Use With State, Total U.S. (1969-2000), National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2003. Underlying mortality data provided by NCHS (www.cdc.gov/nchs).	SEER mortality data, calculated with SEER*Stat or accessible through a web query system, is based on NCHS mortality data. The advantage to using this data source is that it contains out-of-state deaths for 2001. However, data are based on population projections from the 1990 Census, rather than interpolated population estimates.
		CDC WONDER, CDC	CDC WONDER, Centers for Disease Control and Prevention. http://wonder.cdc.gov/	CDC WONDER is a web query system with underlying mortality data from NCHS. The advantage to using this data source is that it uses an accurate denominator based on interpolation between 1990 and 2000 censuses. However, it only has deaths updated through 1999.

Risk Factors	RI	RI-BRFSS, HEALTH	RI Behavioral Risk Factor Surveillance System*, Office of Health Statistics, HEALTH. http://www.cdc.gov/brfss/	The BRFSS is an annual telephone survey that measures health risk behaviors among adults 18 years and older. The BRFSS data contained in this report was supported by Cooperative Agreement Number U58/CCU100589 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of Centers for Disease Control and Prevention.
	US	BRFSS, CDC	Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention.	Same as **Risk Factors**: RI-BRFSS, HEALTH
Prevention	N/A	N/A	N/A	N/A
Screening	RI	RI-BRFSS, HEALTH	RI Behavioral Risk Factor Surveillance System***, Office of Health Statistics, HEALTH. http://www.cdc.gov/brfss/	Same as **Risk Factors**: RI-BRFSS, HEALTH
	US	BRFSS, CDC	Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention.	Same as **Risk Factors**: RI-BRFSS, HEALTH
Treatment: ACOS programs	RI	RICR, HEALTH	Rhode Island Cancer Registry, Rhode Island Department of Health.	ACOS approved hospital treatment programs are measured as the percent of cancer case reports (a report represents a set of encounters for cancer diagnosis or cancer treatment of an individual) in RI that were or are from ACOS approved hospital cancer treatment programs. This excludes diagnoses or treatments that are made in other states or in RI laboratories. From 1989 through 1996, six hospitals had ACOS-approved cancer programs. Four other programs were approved between 1998 and 2002, bringing the total to ten.
Treatment: AJCC staging	RI	RICR, HEALTH	Rhode Island Cancer Registry, Rhode Island Department of Health.	AJCC staging methodology, an important basis for choosing appropriate treatments, is measured as the percent of cancer cases in RI that were staged with AJCC staging methodology.
Survival (5-yearr survival rates)	US	*SEER Cancer Statistics Review, 1975-2000*	Ries LAG, Eisner MP, Kosary CL, Hankey BF, Miller BA, Clegg L, Mariotto A, Fay MP, Feuer EJ, Edwards BK (eds). *SEER Cancer Statistics Review, 1975-2000*, National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2000, 2003.	Published report

N/A Not applicable for summary in this table because data is from various sources that differ based on cancer types.
[+]Surveillance Research Program, National Cancer Institute SEER*Stat software (www.seer.cancer.gov/seerstat) version <**5.0.20**>.

Key for Maps

Due to Rhode Island's immense coastline and many small islands, it may be difficult to determine county borders in the geographical maps included in this report. The key at right is provided to help you distinguish Rhode Island's five counties. All mapping was done by **HEALTHgis**, HEALTH's geographic information system, with spatial data from the Rhode Island Geographic Information Systems.



Rationale for Selection of Cancer Sites

In addition to discussing the overall burden of cancer in RI, this report highlights cancers of eight sights - the breast, cervix, colon-rectum, lung, melanoma of skin, oral cavity, ovaries, and prostate – which appear in alphabetical order. These were chosen because they have a known control strategy, either through prevention, screening, or effective treatment. Most of these cancers are also the most significant causes of cancer burden.